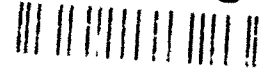


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REGIONAL FREIGHT CONSOLIDATION CENTER BREAK-EVEN MODEL

Mark Kleinhenz

OPERATIONS RESEARCH OFFICE

1993



Approved for public release
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DEPARTMENT OF DEFENSE
DEFENSE LOGISTICS AGENCY

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**REGIONAL FREIGHT
CONSOLIDATION CENTER
BREAK-EVEN MODEL**

Prepared by

Mark Kleinhenz

**DLA OPERATIONS RESEARCH OFFICE
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May 1993

Prepared for

**DEPARTMENT OF DEFENSE
DEFENSE LOGISTICS AGENCY
Executive Director (Plans & Policy Integration)
Corporate Research Team
Cameron Station
Alexandria, VA 22304-6100**

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ALEXANDRIA, VIRGINIA 22304-6100**



FOREWORD

Because of the ongoing military drawdown there has been a decline in vendor freight moving through the Regional Freight Consolidation Centers (RFCCs). Since further reductions in shipment volume are expected, the Defense Logistics Agency Materiel Management/Transportation Services Team (MMATT) requires information on the minimum level of freight required for a given RFCC to remain cost effective. Also, some traffic lanes may not be as cost effective as others. Management needs insight into the impact of increasing transit times on reducing transportation cost for these lanes. The RFCC Break-Even Model is an analysis to support such decision making in managing the RFCC Program. We thank MMATT for their support in providing the most current transportation rates in effect at the RFCCs.

Christine L. Gallo

CHRISTINE L. GALLO
Executive Director
(Policy & Plans Integration)

EXECUTIVE SUMMARY

As the drawdown of military forces proceeds, the volume of vendor freight flowing through the Regional Freight Consolidation Centers (RFCCs) has been steadily declining. In Fiscal Year (FY) 90, the volume was 54 million pounds, but in FY 92 the volume was 37 million pounds. Because of this decline, the Defense Logistics Agency (DLA) Materiel Management/Transportation Services Team required information on the minimum freight level required for an RFCC to remain cost effective. Also, information was needed to gain insight on the effect of changing transit time policy on an RFCC's cost effectiveness.

The objectives of the study were to determine the approximate tonnage at which an RFCC's transportation cost equals the transportation cost of direct shipment and to quantify the impact on RFCC transportation savings of changing transit time policy for traffic lanes.

The study is based on one year's data (FY 92) from the RFCCs' history files. The scope of the study was limited to vendor freight consolidation operations at the five commercial RFCCs. Traffic lanes were restricted to those routes between the RFCCs and the six traditional DLA depots.

The methodology of the study included developing a cost model to calculate both the cost of direct shipment and the transportation cost of the RFCCs for different reduced freight levels. The effect of changing transit time policy on RFCC transportation savings was based on a simulation model.

Principal conclusions of the break-even analysis follow. The transportation cost break-even occurs when an RFCC's annual freight total falls in the following respective range: 2.6 to 4.1 million pounds (lbs) for Chicago, IL, .8 to .9 million lbs for Dallas, TX, 1.8 to 2.3 million lbs for Jacksonville, FL, and 6.0 to 7.5 million lbs for New York, NY. The Los Angeles, CA, RFCC appears to be beyond its break-even range and to be losing a small amount of transportation dollars annually. This result is attributed to the relatively high outbound cost of the Los Angeles site in comparison to the outbound cost of other RFCCs.

Conclusions of the transit time policy analysis were that changing hold time policies would only lead to a small increase in transportation savings at the following RFCCs: Chicago, IL, Dallas, TX, Jacksonville, FL, and New York, NY. Several lanes associated with these RFCCs were estimated to be losing money even after consolidation time had been increased to 10 days. Increasing hold time to 8 days for the Los Angeles RFCC was found to produce a savings on lanes that otherwise were estimated to be losing transportation dollars.

Recommendations include using the results of the break-even analysis as a management indicator to estimate when operation of an RFCC may no longer be cost effective. It is recommended not to change transit time policy at the following RFCCs: Chicago, IL, Dallas, TX, Jacksonville, FL, and New York, NY. Another recommendation is to negotiate for lower rates for those lanes that did not show a transportation savings after 10 days of consolidation. Finally, it is recommended to increase hold time at Los Angeles to 8 days and/or to negotiate with the site operator for lower outbound rates across-the-board.

BACKGROUND

- Vendor freight declining as drawdown proceeds
- RFCC manager seeks information on minimum freight level required for an RFCC to remain cost effective
- Information is needed to determine the impact on RFCC transportation savings of changing transit time policy

Since the end of the cold war, vendor freight through the Regional Freight Consolidation Centers (RFCCs) has been declining. Total vendor freight throughput in FY 90 was 54 million pounds while in FY 92 this number had fallen to 37 million pounds. Information is needed on the minimum freight level required for an RFCC to remain cost effective. To increase the cost effectiveness of a RFCC, additional information is needed on the impact that changing transit time policy would have on transportation savings on a lane by lane basis, e.g., Chicago RFCC to Defense Depot Richmond, VA, or Chicago RFCC to Defense Depot Columbus, OH.

OBJECTIVES

- To determine the approximate tonnage at which RFCC transportation cost equals direct shipment transportation cost
- To determine the impact on RFCC transportation savings of changing transit time policy for traffic lanes

The objectives of the study were established with the goal of assisting the RFCC managers in making decisions to make the RFCC program more cost effective. By determining the approximate tonnage at which an RFCC's transportation cost equals direct shipment cost, management has an indicator to use to estimate when an RFCC is no longer cost effective. By investigating the effect of changing transit time policy on an RFCC's transportation savings, insight can be gained on how to make that RFCC's transportation savings increase.

SCOPE

- FY 92 data from RFCC history tapes
- Five commercial RFCCs
- Vendor consolidation operations at the RFCCs
- Traffic lanes are limited to routes between the RFCCs and 6 traditional DLA depots

This work is based on 1 year's worth of data contained in the RFCC history tapes. The analysis is limited to studying the vendor freight consolidation operations at the five commercial RFCCs. Traffic lanes are defined as routes between the commercial RFCCs and the six traditional DLA depots: Defense Depot Columbus, OH, Defense Depot San Joaquin, CA, Defense Depot Memphis, TN, Defense Depot Richmond, VA, Defense Depot Ogden, UT, and Defense Depot Susquehanna, PA.

METHODOLOGY

Direct Shipment Transportation Cost

- Direct shipments modeled by aggregating data by contract number, receipt date and customer (DODAAC)
- Direct small parcel modeled by single-lining all records < 71 lbs with a SCAC of UPS, USPS or RPS
- Direct freight shipments rated using 1993 commercial class 50 rates with 10% off
- Direct small parcel rated using UPS rates

Direct shipment cost, i.e. from the vendor to the customer, was modeled in the following way. Freight shipments were built by aggregating RFCC historical data by: contract number, receipt date and customer. In the history tapes the customer is identified by Department of Defense Address Activity Code (DODAAC). We modeled as a direct small parcel shipment any data record with a weight less than 71 pounds and a Standard Carrier Alpha Code (SCAC) of United Parcel Service (UPS), United States Postal Service (USPS) or Roadway Parcel Service (RPS).

Freight shipments were costed by applying the 1993 commercial class 50 rates with a 10 percent discount. The cost of small parcel shipments was computed using UPS rates.

METHODOLOGY

RFCC Transportation Cost

- Inbound shipments to RFCC modeled by aggregating on: contract number and receipt date
- Small parcel shipments modeled in same manner as direct shipment
- Inbound shipments rated using same rate files as used to cost direct shipments
- Outbound shipments built by aggregating on outbound GBL number
- Outbound shipments rated using most current rates for RFCCs + 3.2% rate hike adjustment

The methodology for calculating the RFCC transportation cost is as follows. Inbound shipments to the RFCC, i.e. from the vendor to the RFCC, were built by aggregating FY 92 RFCC historical data by: contract number and receipt date. Inbound small parcel shipments were built in the same manner as described for direct shipment.

Inbound freight shipments were rated using the commercial class 50 rates with a 10 percent discount; inbound small parcels were costed using UPS rates.

Outbound shipments were built by rolling up data by the outbound Government Bill of Lading (GBL) number, which is recorded in the history file.

The cost of outbound shipments was computed by using the most current rates negotiated for the RFCCs plus the recently awarded 3.2 percent rate hike adjustment.

METHODOLOGY

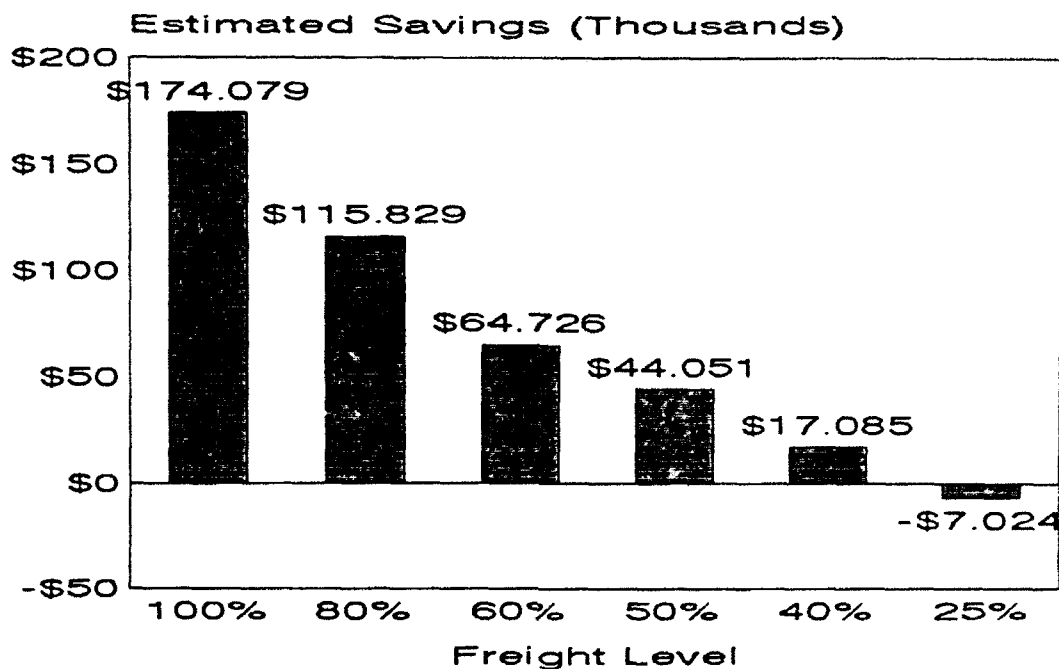
Reducing Freight Levels

- Reduce tonnage by systematically eliminating data records to achieve an 80%, 60% etc.. freight level
- For example: to reduce tonnage to 80% of current level, 20% of total number of records was eliminated by traffic lane

To gain insight into the question of where the break-even point might be for an RFCC, the annual freight level had to be reduced. This was accomplished by employing a heuristic approach that systematically eliminated data records. The database was sorted by RFCC and customer, i.e. traffic lane, and divided into blocks of 100. Records in each block were systematically eliminated to achieve the lower freight level. So, for example, to reduce tonnage to 80 percent of the current level, the last 20 percent of the records in each block was discarded.

RESULTS OF BREAK-EVEN MODEL RUNS

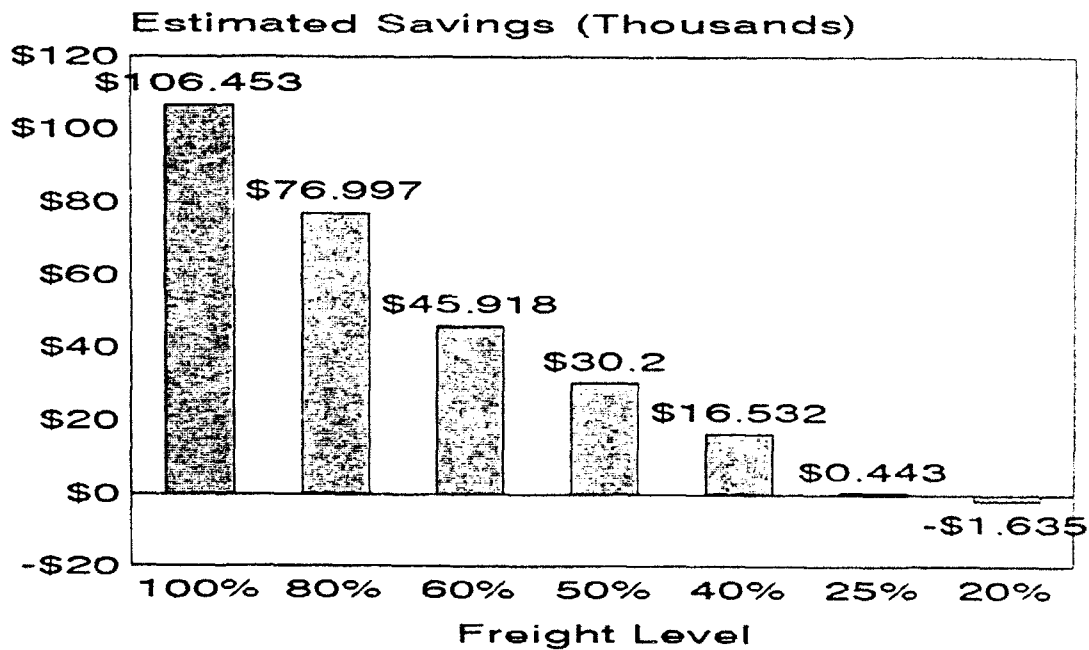
CHICAGO RFCC Break-Even Analysis



This bar chart shows the effect on transportation savings at the Chicago RFCC when the annual freight level decreases. The vertical axis shows the estimated savings in thousands of dollars. The horizontal axis shows the freight throughput as a percentage of the current freight level. The annual freight total during FY 92 was 10,333,688 lbs. At the current freight level the estimated annual savings is \$174,079. If the annual freight dropped to 40 percent of 10 million lbs, then savings is estimated to decrease to \$17,085. When the freight throughput decreases to 25 percent, RFCC operations are projected to be losing money.

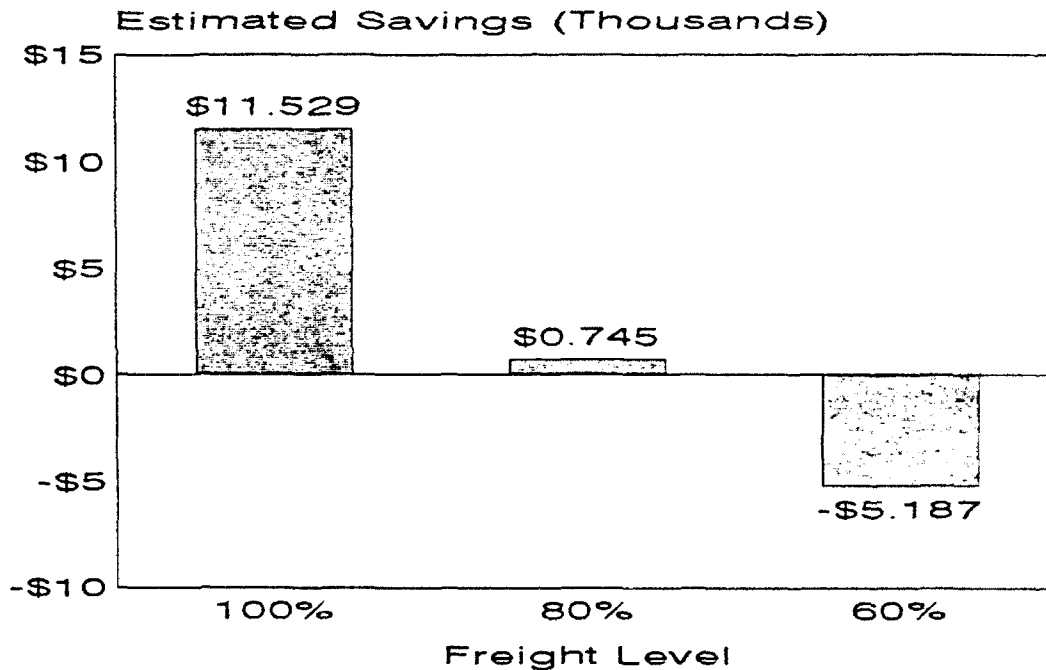
Results are expressed as a range. We selected the range format because of limitations in the database, e.g., missing bill-of-lading data, and the necessity to estimate direct and inbound transportation costs using Class 50 rates with a 10 percent discount. In summary the break-even point for the Chicago RFCC is estimated to be between 25 percent and 40 percent or between 2.6 and 4.1 million lbs.

DALLAS RFCC Break-Even Analysis



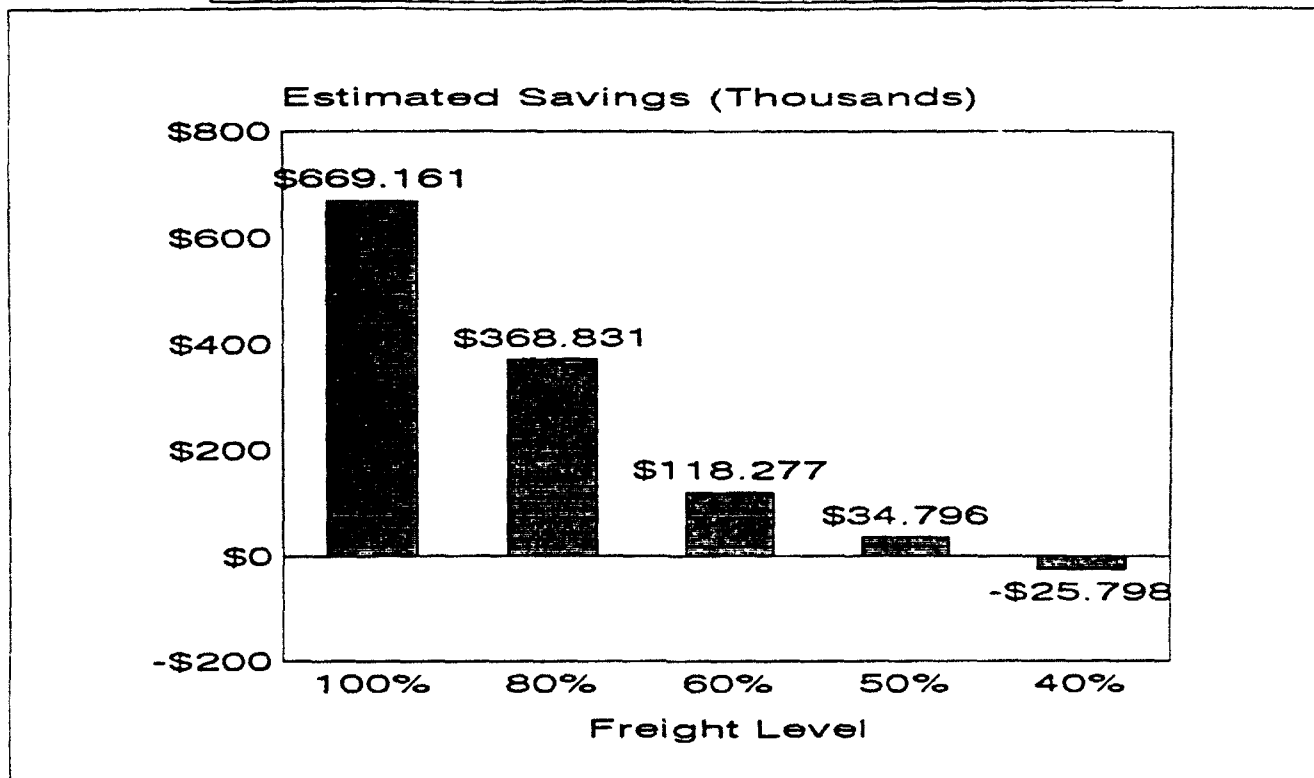
Vendor consolidation operations at the Dallas RFCC are estimated to be saving \$106,453 annually at the current freight total of 3,760,662 lbs. It is estimated the RFCC transportation cost will break-even with the direct transportation cost at some point in the range of 20 percent to 25 percent or between .8 and .9 million lbs.

Jacksonville RFCC Break-Even Analysis



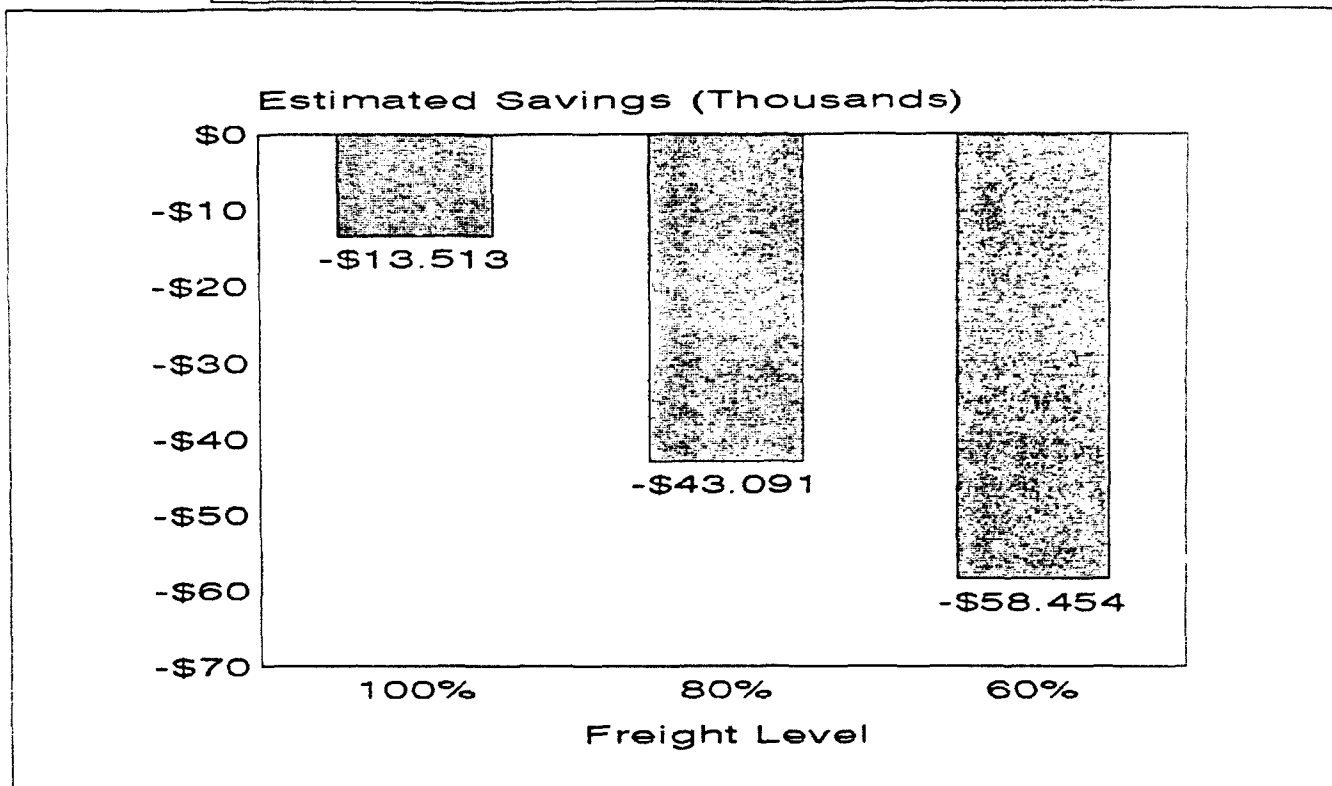
The break-even analysis for Jacksonville RFCC indicates this RFCC is nearing its break-even point. At the current annual freight throughput of 2,922,848 lbs, vendor consolidation operations are showing an estimated modest savings over direct shipment. When freight level decreases to 80 percent then the savings is less than \$1000. At the 60 percent freight level operations are estimated to result in a yearly loss in transportation dollars of \$5,187. The break-even point for the Jacksonville RFCC is estimated to be somewhere in the range of 60 percent to 80 percent or between 1.8 and 2.3 million lbs.

New York RFCC Break-Even Analysis



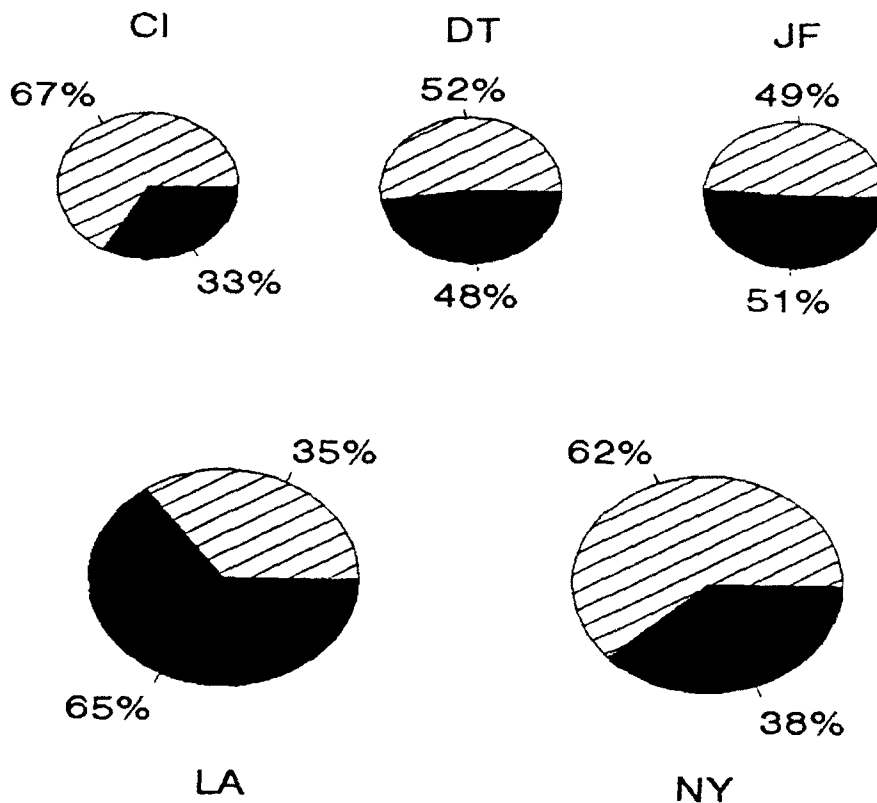
Vendor freight consolidation operations at the New York RFCC are estimated to be saving over \$669,000 in transportation dollars annually. But, if the current freight level of 14,944,965 lbs was to decrease by half then the savings at 50 percent is calculated to be \$34,796. Continued decline in the amount of vendor freight through the RFCC would result in the loss of transportation dollars at the 40 percent freight level. The break-even for transportation cost at the New York RFCC is estimated to be somewhere between 40 percent and 50 percent or between 6.0 and 7.5 million lbs.

Los Angeles RFCC Break-Even Analysis



At the current freight level of 3,138,314 lbs, the Los Angeles RFCC appears to be beyond its break-even range and to be losing transportation dollars. Why are the Los Angeles RFCC's vendor freight consolidation operations believed to be producing no savings? To answer this question, the following pie chart was prepared so that transportation costs at Los Angeles could be compared with those at the other RFCCs.

RFCC Transportation Cost Summary Based on FY 92 Data



RFCC	AVG OUTBOUND RATE/CWT
CI	\$2.37
DT	\$3.99
JF	\$12.00
LA	\$19.15
NY	\$8.17

This pie chart presents a comparison of the inbound and outbound cost distribution of the RFCCs. The pies represent the total RFCC transportation cost for FY 92. The line shading represents the inbound transportation cost and the dark shading of the pie represents the outbound transportation cost. As an example, Chicago's transportation cost is estimated to be made up of 67 percent inbound transportation cost and 33 percent outbound transportation cost. Dallas and Jacksonville show the inbound cost and outbound cost to be nearly equal. New York's transportation cost distribution is similar to Chicago's. But, the Los Angeles RFCC's cost distribution is very different from that of other RFCCs. Outbound transportation cost accounts for 65 percent of the RFCC's total cost. The table to the right of the pie chart shows the average outbound rates of the five RFCCs. Again, Los Angeles shows an average outbound cost well above that of the other RFCCs.

CONCLUSIONS BREAK-EVEN ANALYSIS

- TRANSPORTATION COST BREAK-EVEN PROBABLY OCCURS WHEN AN RFCC'S ANNUAL FREIGHT TOTAL FALLS IN THE FOLLOWING RESPECTIVE RANGE:
CI - 2.6 TO 4.1 MILLION LBS
DT - .8 TO .9 MILLION LBS
JF - 1.8 TO 2.3 MILLION LBS
NY - 6.0 TO 7.5 MILLION LBS
- AT 3.1 MILLION LBS LA RFCC APPEARS TO BE BEYOND ITS BREAK-EVEN RANGE
- RFCC LA'S OUTBOUND COSTS ARE HIGH IN COMPARISON WITH THOSE OF THE OTHER RFCCS

As the bar chart for Chicago showed, at 25 percent of the current freight level the RFCC is estimated to be operating at a small loss but at the 40 percent level it is estimated to be operating at a small savings. The percentages bracketing the break-even point for Chicago and for all the RFCCs were converted into pounds in order to report the break-even range. The break-even for the Chicago RFCC is believed to occur in the range of 2.6 million to 4.1 million lbs. Similarly, Dallas RFCC is estimated to be breaking even between .8 and .9 million lbs; Jacksonville RFCC is believed to be breaking even between 1.8 and 2.3 million lbs; and the New York RFCC is thought to be breaking even between 6.0 and 7.5 million lbs. As the bar chart for Los Angeles showed, this RFCC appears to be currently operating beyond its break-even range. This result is attributed in large part to the comparably high cost of outbound freight at Los Angeles RFCC.

RECOMMENDATIONS BREAK-EVEN ANALYSIS

- USE RESULTS OF BREAK-EVEN ANALYSIS AS A MANAGEMENT INDICATOR TO ESTIMATE WHEN OPERATION OF AN RFCC MAY NO LONGER BE COST EFFECTIVE
- NEGOTIATE WITH LOS ANGELES RFCC SITE OPERATOR TO OBTAIN OUTBOUND RATES MORE COMPARABLE WITH THOSE IN EFFECT AT OTHER RFCCS

Recommendations are as follows. We suggest using the results of the break-even analysis as a management indicator. It would be used in conjunction with projected freight levels to estimate whether throughput has decreased to the point when the operation of an RFCC may no longer be cost effective. Also, we recommend negotiation with the Los Angeles site operator to obtain outbound rates more comparable with those at the other RFCCs.

THE EFFECT OF VARYING HOLD TIME POLICY ON RFCC TRANSPORTATION SAVINGS

METHODOLOGY

Savings As a Function of Hold Time

- Prorate inbound transportation cost by lane (DODAAC)
- Model new hold time policy by aggregating RFCC outbound shipments for 4 days, 6 days, etc..
- Rate consolidated shipments with current RFCC outbound rates + 3.2% rate hike and add to prorated inbound cost
- Compare modeled RFCC cost to cost of direct shipment to determine change in savings

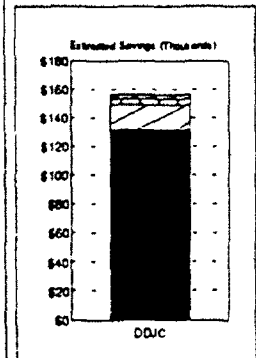
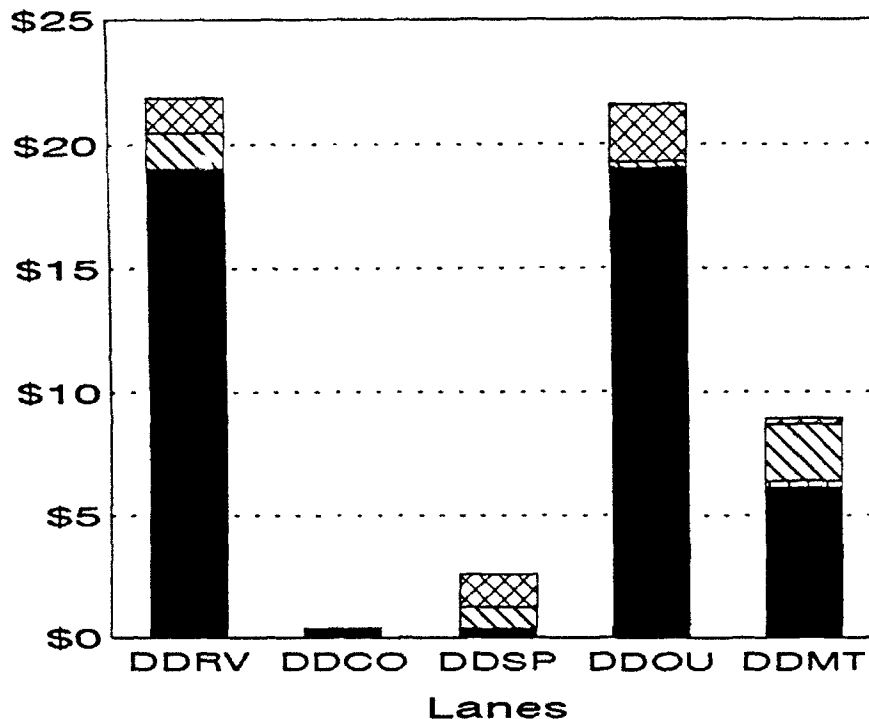
To study savings as a function of hold time, we began by prorating the inbound transportation cost according to weight by traffic lane. We modeled the different hold time policies by simulating the building of shipments outbound from the RFCC for: 4 days, 6 days, 8 days and 10 days. The consolidated shipments were rated using the RFCCs' outbound rates plus the 3.2 percent rate hike adjustment.

For each scenario, the prorated cost was added to the modeled outbound cost and the sum was compared to the cost of direct shipment. The cost difference showed the incremental improvement of changing hold time policy.

RESULTS OF VARYING HOLD TIME POLICY ON RFCC SAVINGS

Chicago RFCC Savings As a Function of Hold Time

Estimated Savings (Thousands)



Hold Time
 10 Days
 8 Days
 6 Days
 4 Days
 Current

This series of stacked bar charts for Chicago and the other RFCCs will show the lanes estimated to be saving the most transportation dollars, any lanes estimated to be not saving money and the effect on lane savings of increasing the consolidation time. Please note that transit time is not included in hold time; hold time refers only to the period of shipment consolidation.

This first stacked bar chart shows estimated savings along the vertical axis and the traffic lanes along the horizontal axis. The stacked bars show the incremental effect on savings when shipments are consolidated for longer periods. For example, let's examine the data for shipping from Chicago to DDRV (for abbreviations please refer to Appendix A). The stacked bar shows that under current hold time policy this lane is estimated to be saving approximately \$18,000 in transportation dollars annually. If the consolidation time was increased to 8 days, then total savings would increase by about \$2,000 to give a total savings

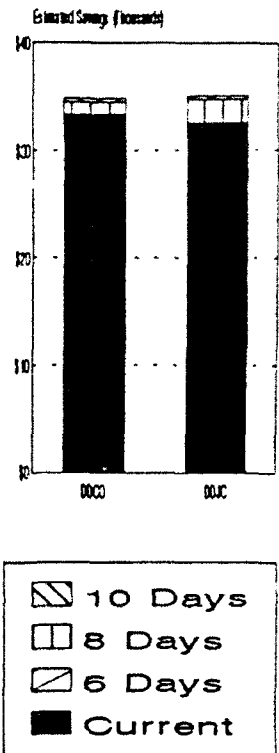
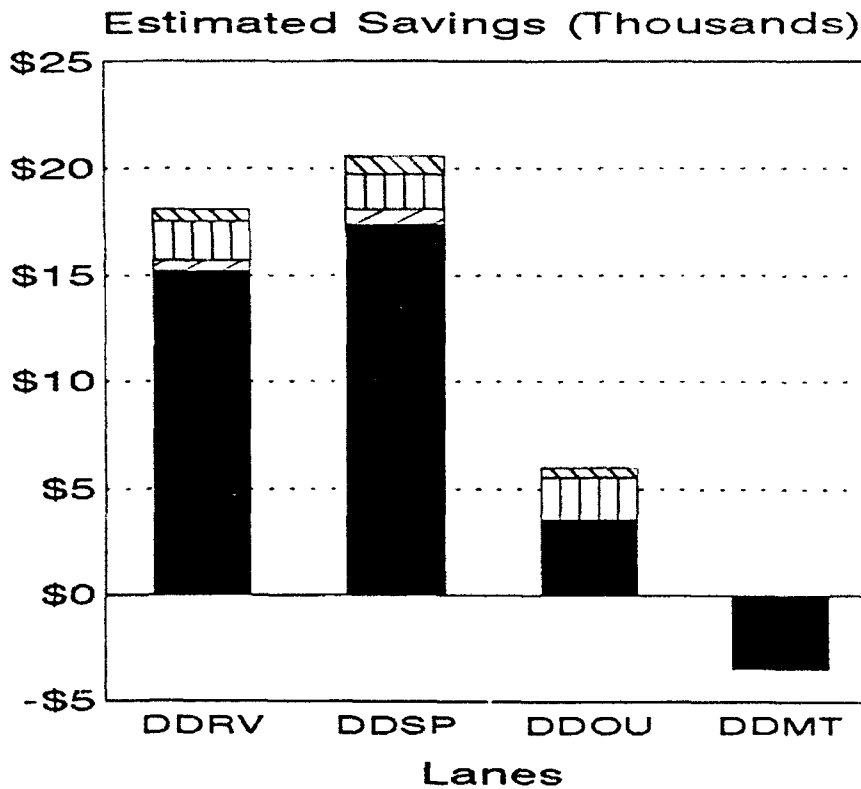
along that lane of just over \$20,000. But when hold time is increased to 10 days the total annual transportation savings would be boosted to about \$22,000 for the lane.

All lanes out of the Chicago RFCC are estimated to be saving transportation dollars. The lane believed to be saving the most is Chicago-to-DDJC. Because of scale differences, this lane is shown separately as a subchart. The transportation savings is calculated to be about \$130,000 annually on this lane alone. The results for DDJC indicate that if 4 days hold time is used then savings should be about \$150,000 annually. However, current performance indicates that the average hold time for the Chicago - DDJC lane is 5.1 days. (Appendix B contains bar charts and tables describing the current consolidation performance at each of the RFCCs during FY 1992.) Therefore, it is believed that the increase in savings is not due to increasing hold time but to more efficiently consolidating freight over the current hold time period of 5.1 days.

The DDCO lane shows no improvement in savings even after 10 days of consolidation. This can be understood by referring to the average hold time for this lane, 10.4 days, as shown in Appendix B. The remaining lanes show a marginal increase in savings in return for increasing hold times up to 10 days.

DALLAS RFCC

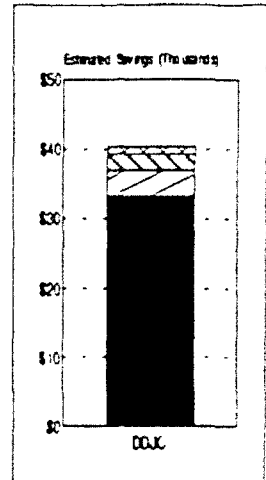
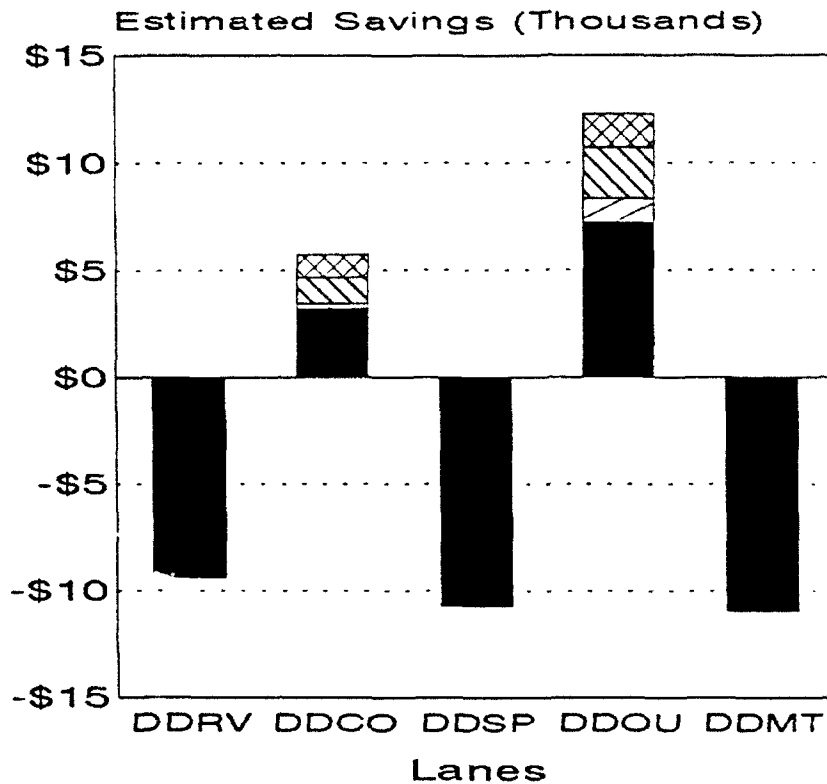
Savings As a Function of Hold Time



This next stacked bar chart displays the results of varying consolidation time by lane for the Dallas RFCC. The subchart to the right was created, because of scale differences, to show the results for the DDCO and DDJC lanes. These two lanes are calculated to be saving the most transportation dollars. Increasing hold times to 8 and 10 days only marginally increase the annual savings along these routes. Of the remaining lanes only traffic to DDMT was shown to be losing transportation dollars - an estimated \$3,000 annually. After increasing the consolidation time to 10 days, results showed that this lane was still losing money.

JACKSONVILLE RFCC

Savings As a Function of Hold Time

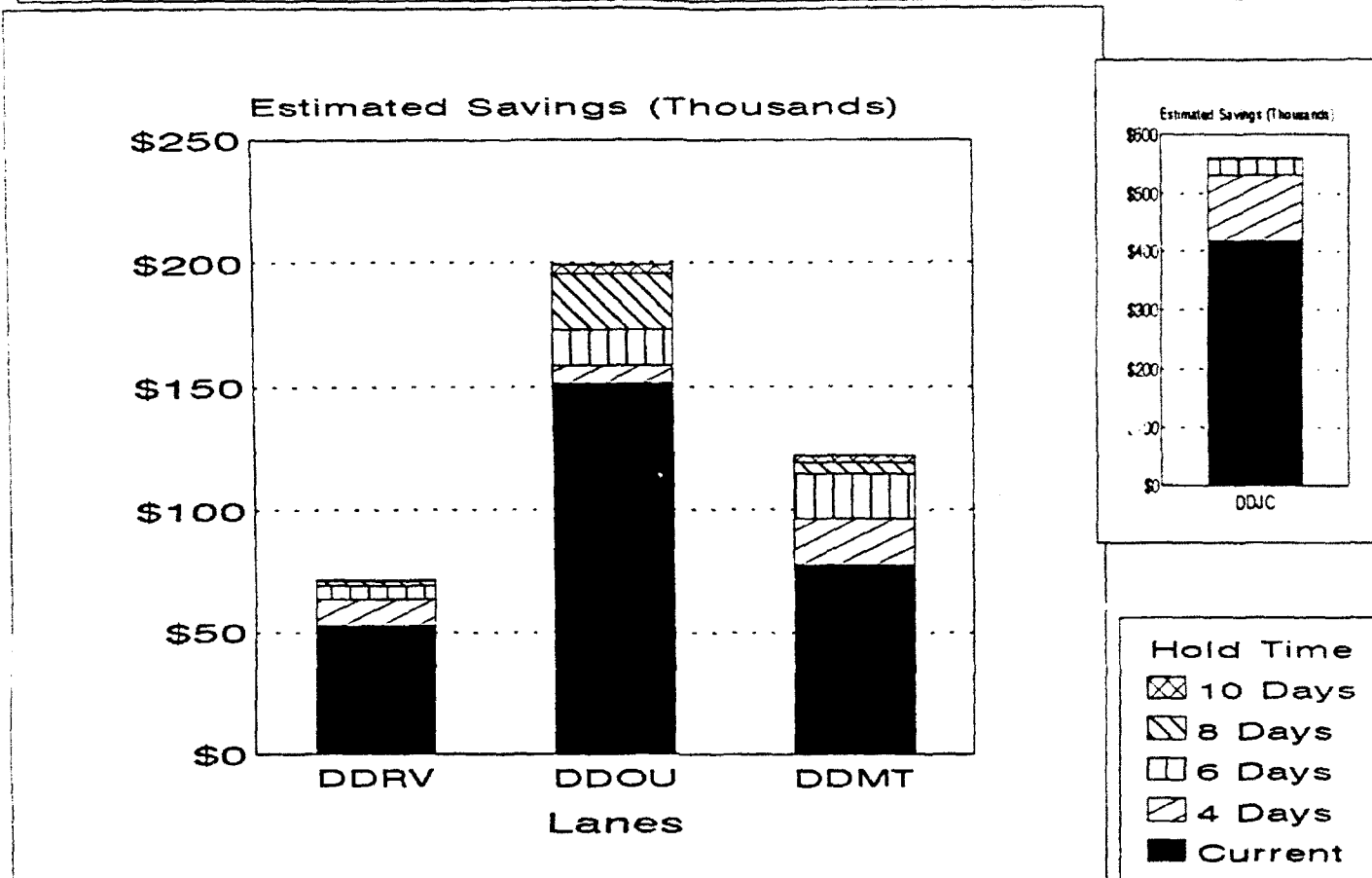


Hold Times

- 10 Days
- 8 Days
- 6 Days
- 4 Days
- Current

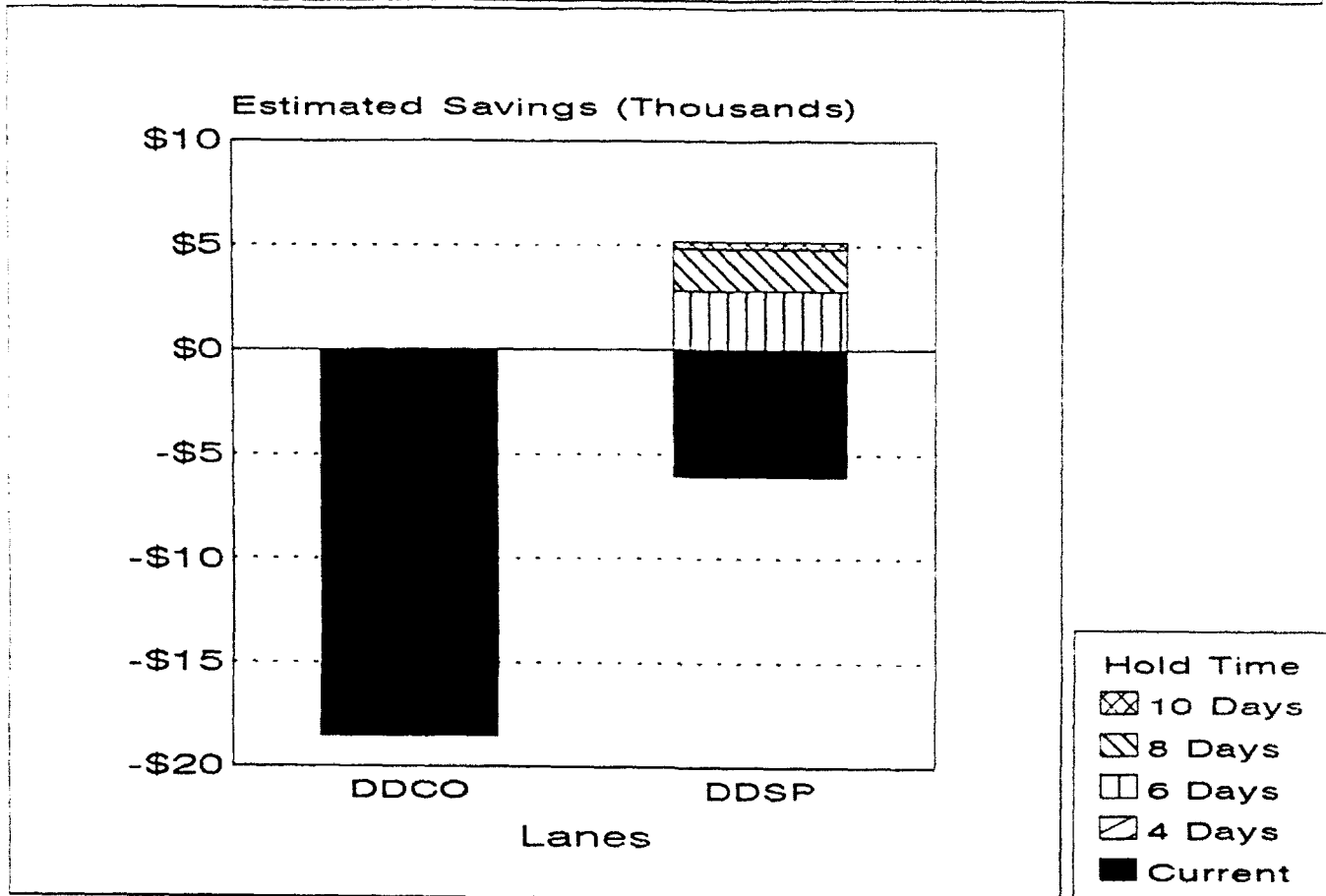
These stacked bar charts summarize the effect of increased hold time on savings at the Jacksonville RFCC. The DDJC lane (see subchart) is shown to be saving the most transportation dollars. Besides this lane, the DDOU and DDCO lanes are estimated to be saving transportation money. A relatively small transportation savings can be realized by increasing the hold times on these lanes, however the gains are not estimated to be large. In contrast, the DDRV, DDSP and DDMT lanes are shown to be losing transportation dollars. Increasing consolidation time along these lanes did not produce a savings even after simulating a consolidation period of 10 days. Again, statistics on current consolidation performance can be found in Appendix B.

NEW YORK RFCC Savings As a Function of Hold Time



This bar chart and the one on the following page summarize the results of calculating transportation savings as a function of hold time at the New York RFCC. The subchart to the right shows the DDJC lane is estimated to be responsible for much of the estimated transportation savings at the RFCC. The featured bar chart shows that DDOU, DDMT and DDRV are also saving money under current operations. Simulating an increase of hold time to 4 days or 6 days resulted in boosting savings on all these four lanes. However, referring to Appendix B, current consolidation times for these lanes already exceed 4 days; this indicates that the increases in savings due to the simulations are not due to changing hold time policy; more likely the savings increases are due to more efficient consolidation of freight under current hold time policy.

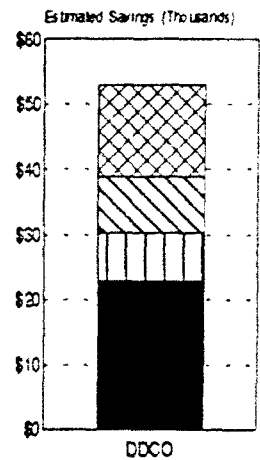
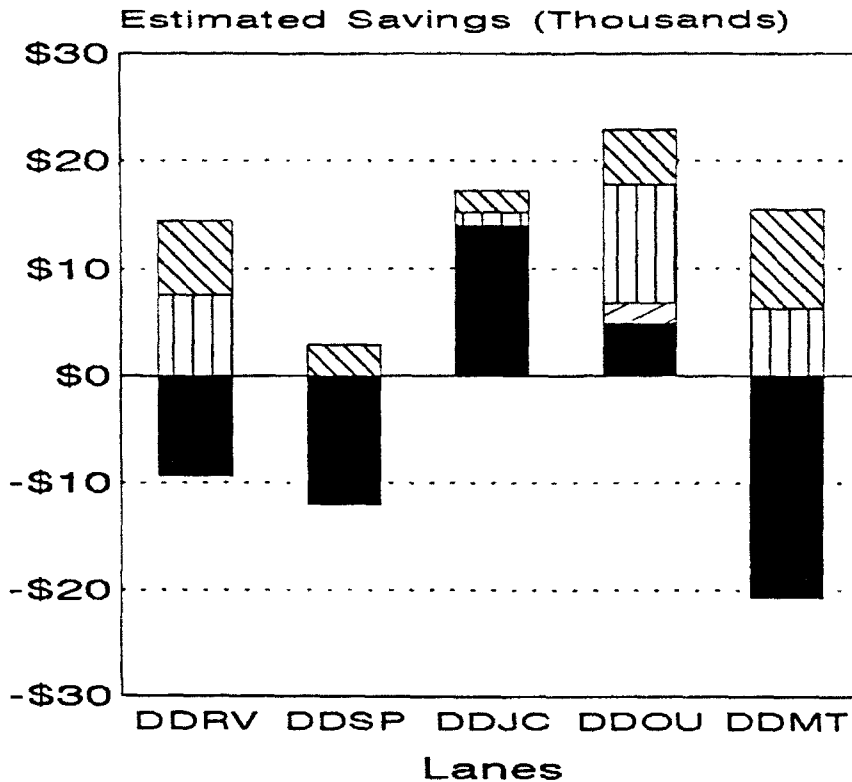
NEW YORK RFCC Savings As a Function of Hold Time



Some lanes are estimated to be currently losing transportation dollars for the New York RFCC: DDCO is estimated to be costing about \$18,000 more annually than direct shipment while DDSP is figured to be losing about \$6,000 in transportation dollars. Simulating different hold time policies for these lanes yielded the following results. DDSP could be showing a small savings if hold time was increased to 6 days; current average hold time is 4.8 days (see Appendix B). DDCO did not show a savings after 10 days simulated hold time. This result is partially attributed to the fact that outbound truckload rates for the New York - DDCO lane are higher (more than \$2.00 per hundredweight) than the rates to either DDRV or DDSP. Also, there is very little less-than-truckload weight to consolidate on this lane to generate an increase in savings.

LOS ANGELES RFCC

Savings As a Function of Hold Time



Hold Times

- 10 Days
- 8 Days
- 6 Days
- Current

This bar chart summarizes the results for the Los Angeles RFCC. DDCO is shown as saving the most transportation dollars; DDJC and DDOU also show a modest annual savings. The lanes estimated to be losing money include: DDRV, DDSP and DDMT. DDMT appears to be losing the most money at about \$20,000 annually. Simulation results show that all lanes, with the exception of DDSP, are showing a savings when shipments are consolidated for 8 days. DDSP appears to require 10 days hold time before a savings can be generated.

CONCLUSIONS HOLD TIME ANALYSIS

- INCREASING HOLD TIME FOR CI, DT, JF, AND NY LANES YIELDS SMALL INCREASES IN SAVINGS
- THE FOLLOWING LANES DID NOT PRODUCE A SAVINGS AFTER 10 DAYS HOLD TIME:
DT-DDMT, JF-DDRV, JF-DDSP, JF-DDMT
AND NY-DDCO
- INCREASING CONSOLIDATION TIME TO 8 DAYS FOR LA-DDRV AND LA-DDMT SHOULD PRODUCE A SAVINGS ON THESE LANES
- LA-DDSP LANE REQUIRES 10 DAYS HOLD TIME TO PRODUCE A SAVINGS

Conclusions from the hold time analysis are as follows. Increasing the hold times for the Chicago, Dallas, Jacksonville, and New York lanes produced small increases in savings. Often the increase in savings was not due to a change in hold time policy but to the more efficient consolidation of freight by computer simulation. Several lanes did not show a savings even after consolidating for 10 days. However, changing hold time policy at the Los Angeles RFCC is one way to make vendor consolidation operations there save transportation money. If freight from Los Angeles to DDRV and to DDMT is consolidated for 8 days then these lanes should produce a savings. But the Los Angeles-DDSP lane would require an increase in hold time to 10 days before a small savings could be realized.

RECOMMENDATIONS HOLD TIME ANALYSIS

- DO NOT CHANGE TRANSIT TIME POLICY AT CI, DT, JF OR NY
- NEGOTIATE FOR LOWER RATES FOR THE FOLLOWING LANES:
DT-DDMT
JF-DDRV
JF-DDSP
JF-DDMT
NY-DDCO
- INCREASE HOLD TIME POLICY AT LA TO 8 DAYS AND/OR NEGOTIATE FOR LOWER OUTBOUND RATES ACROSS THE BOARD

Based on the results of the hold time analysis we recommend the transit time policy not be changed at the following RFCCs: Chicago, Dallas, Jacksonville, and New York. Savings on some lanes could not be produced when up to 10 days consolidation time was simulated; for these lanes we suggest negotiating lower outbound rates. Finally, transportation savings at the Los Angeles RFCC can be increased by either increasing hold time policy to 8 days or obtaining lower outbound rates across-the-board.

APPENDIX A
ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations

CI	Chicago, IL, RFCC
DDCO	Defense Depot Columbus, OH.
DDJC	Defense Depot San Joaquin, CA.
DDMT	Defense Depot Memphis, TN.
DDOU	Defense Depot Ogden, OU.
DDRV	Defense Depot Richmond, VA.
DDSP	Defense Depot Susquehanna, PA.
DODAAC	Department of Defense Address Activity Code
DT	Dallas, TX, RFCC
GBL	Government Bill of Lading
JF	Jacksonville, FL, RFCC
LA	Los Angeles, CA, RFCC
lbs	Pounds
LTL	Less-Than-Truckload
NY	New York, NY, RFCC
RFCC	Regional Freight Consolidation Center
RPS	Roadway Parcel Service
SCAC	Standard Carrier Alpha Code
TL	Truckload
UPS	United Parcel Service
USPS	United States Postal Service

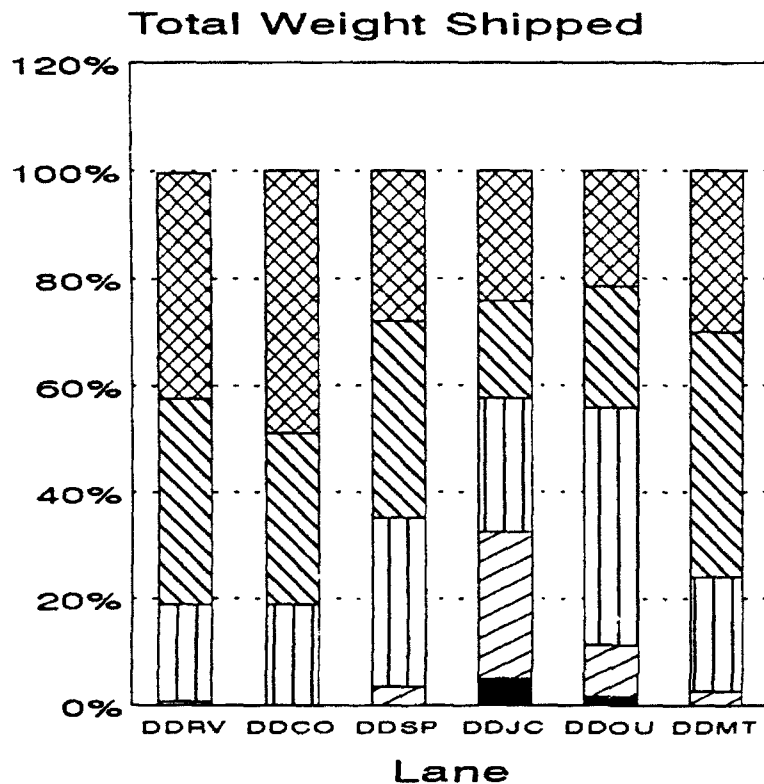
APPENDIX B
CURRENT CONSOLIDATION PERFORMANCE
STATISTICS

The following five stacked bar charts were prepared to show the current level of consolidation performance at the five commercial RFCCs. For each RFCC, the vertical axis of the bar chart shows the weight shipped in a weight break as a percentage of the total weight shipped on that lane. The horizontal axis shows the different traffic lanes, e.g., Chicago to DDRV. As an example, the Chicago RFCC bar chart shows that for the Chicago-to-DDRV lane 20 percent of the total weight moved was shipped in the 20,000 pound weight break, 40 percent of the total weight moved in the 30,000 pound weight break, and the remaining 40 percent moved as 40,000 pounds or more.

The table to the right of the bar chart displays the current average consolidation time and the total annual weight shipped by lane. Consolidation times and total weight shipped are developed from the history tapes received monthly from each RFCC. The average consolidation time is calculated by subtracting the earliest vendor receipt date on a GBL from the GBL's ship date. This gives the consolidation time for that one GBL. By repeating this calculation for all GBLs shipped on the lane for a year and taking the arithmetic average of all the GBLs an average GBL hold time was calculated. Again, as an example, the table shows an average of 8.7 days consolidation time for freight moving from Chicago to DDRV; a total of 1,913,637 pounds was shipped during the year on this lane.






CHICAGO RFCC

Current Consolidation Performance



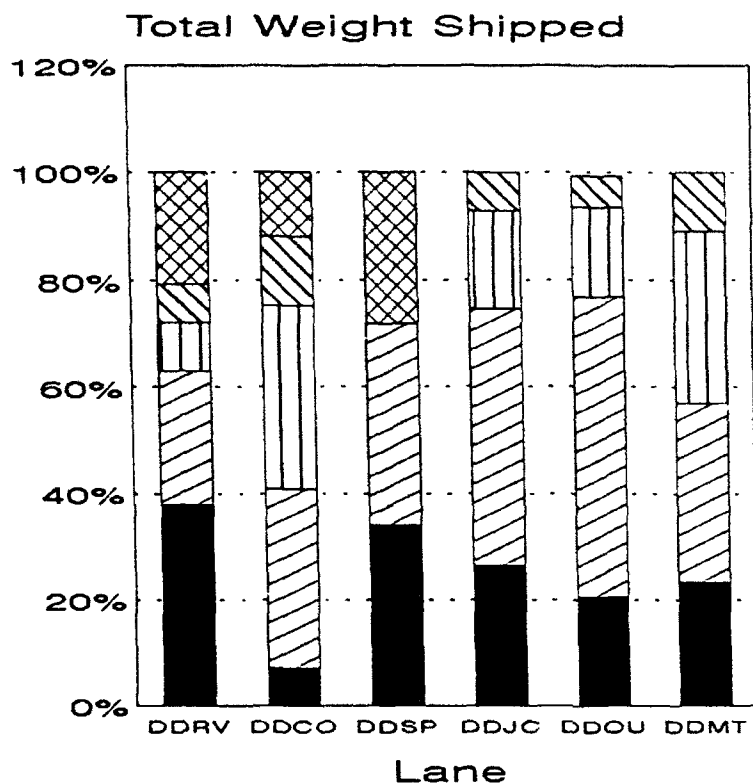
LANE	AVG GBL HOLD (DAYS)	TOTAL WGT
DDRV	8.7	1,913,637
DDCO	10.4	1,271,396
DDSP	7.5	1,357,278
DDJC	5.1	2,734,519
DDOU	9.3	1,033,114
DDMT	7.4	1,839,828

Weight Breaks

-  40K
-  30K
-  20K
-  10K
-  LTL

DALLAS RFCC

Current Consolidation Performance



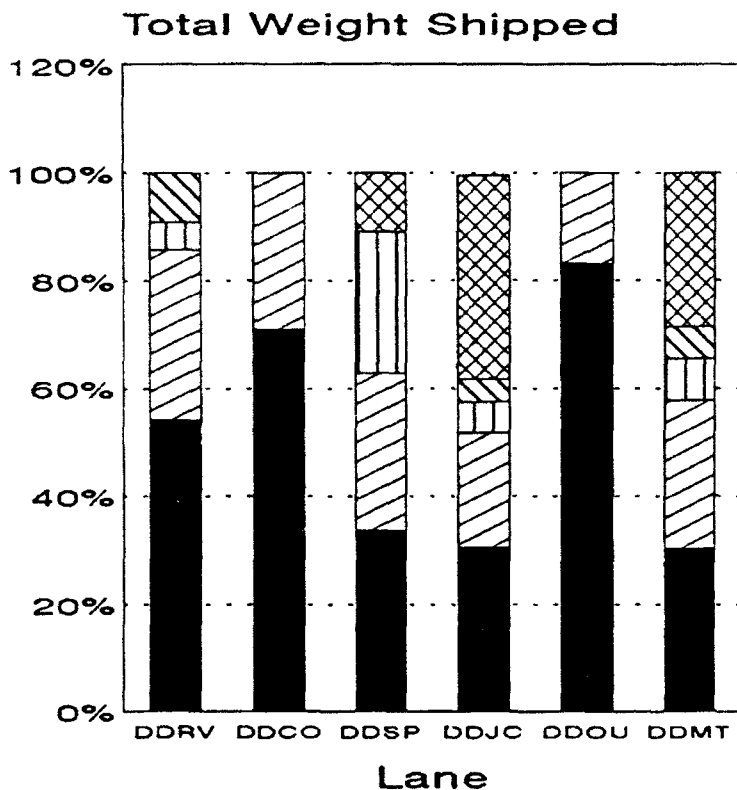
LANE	AVG GBL HOLD (DAYS)	TOTAL WGT
DDRV	30	550,327
DDCO	33	876,924
DDSP	30	465,436
DDJC	32	550,564
DDOU	31	600,979
DDMT	32	645,546

Weight Breaks

- 40K
- 30K
- 20K
- 10K
- LTL

JACKSONVILLE RFCC

Current Consolidation Performance



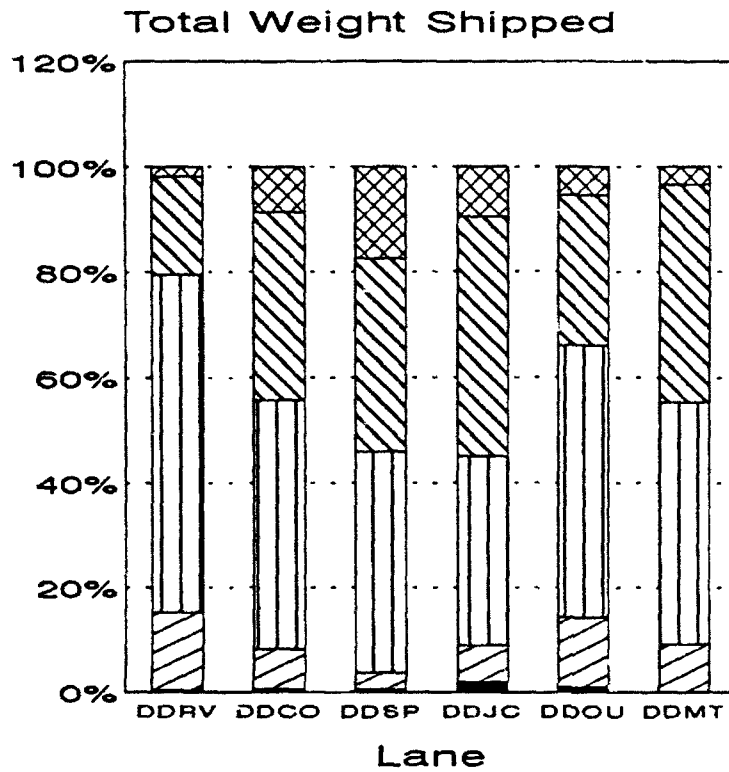
LANE	AVG GBL HOLD (DAYS)	TOTAL WGT
DDRV	3.3	398,037
DDCO	3.5	283,658
DDSP	3.1	470,713
DDJC	2.2	871,124
DDOU	1.7	244,307
DDMT	3.3	614,464

Weight Breaks

- 40K
- 30K
- 20K
- 10K
- LTL

NEW YORK RFCC

Current Consolidation Performance



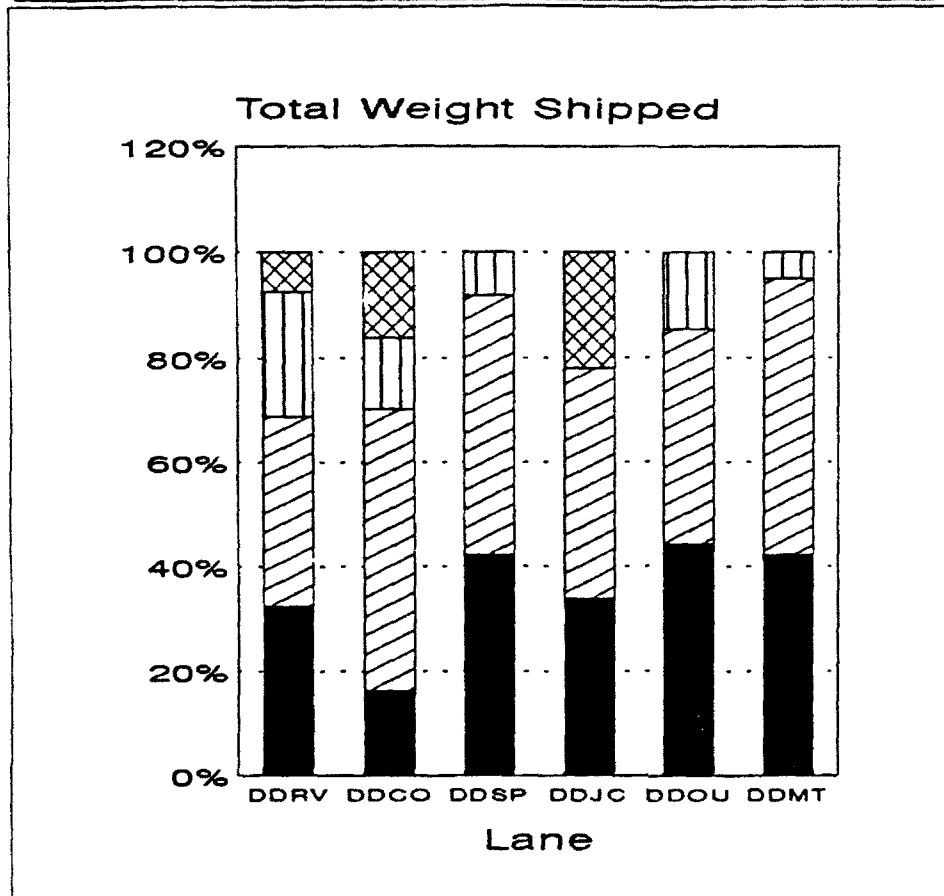
LANES	AVG GBL HOLD (DAYS)	TOTAL WGT
DDRV	4.9	2,296,785
DDCO	6.9	1,617,416
DDSP	4.8	2,686,888
DDJC	5.6	4,085,235
DDOU	6.3	1,659,848
DDMT	5.1	2,446,535

Weight Breaks

- 40K
- 30K
- 20K
- 10K
- LTL

LOS ANGELES RFCC

Current Consolidation Performance



LANES	AVG GBL HOLD (DAYS)	TOTAL WGT
DDRV	4.1	532,942
DDCO	3.3	676,156
DDSP	4.2	394,362
DDJC	4.4	504,046
DDOU	2.9	464,380
DDMT	6.3	461,281

Weight Breaks

- 40K
- 30K
- 20K
- 10K
- LTL

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<small>This report is intended to provide information on a subject of current or projected interest and concern to agencies within the Department of Defense and the public. It is not to be distributed outside the Department of Defense. It is to be made available to the public only if it is determined that it contains information of broad interest and is not of a type that would be exempt from public release under the Freedom of Information Act (5 U.S.C. 552). It is to be made available to the public only if it is determined that it contains information of broad interest and is not of a type that would be exempt from public release under the Freedom of Information Act (5 U.S.C. 552).</small>				
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13. ABSTRACT (Maximum 200 words) The ongoing military drawdown has caused a decline in vendor freight moving through the Regional Freight Consolidation Centers (RFCCs). Since further reductions in freight volume are anticipated, the Transportation Services Team (MMATT) requested information on the minimum annual freight volume required for a given RFCC to remain cost effective. Because some traffic lanes may not be as cost effective as others, management needs insight on the impact of changing transit time policy on RFCC transportation savings. To address these concerns, the objectives of the study were to determine the approximate tonnage for the RFCC transportation cost to equal direct shipment cost and to determine the impact on RFCC transportation savings of changing transit time policy for traffic lanes. The study is based on 1 year's data (FY 92) from the RFCC history tapes. The scope of the work is limited to examining vendor consolidation operations at the five commercial RFCCs; only traffic lanes between the commercial RFCCs and the six traditional DLA depots were analyzed.				
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